

AUG 6 2002

COPY OF PAPERS  
ORIGINALLY FILED

Sheet 1 of 1

FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE  
INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT

(Use several sheets if necessary)

ATTY. DOCKET NO.:	SERIAL NO.:
IN01159K1	10/052,386
APPLICANT:	
SAKSENA, et al	

FILING DATE:  
01/18/2002GROUP:  
TBA

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
AA						
AB						
AC						

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
						YES
						NO
RP	AD WO 01 74768	10/11/01	WIPO	—	—	
	AE WO 01 40262	06/07/01	WIPO	—	—	
	AF WO 00 52032	09/08/00	WIPO	—	—	
	AG WO 99 07734	02/18/99	WIPO	—	—	
	AH WO 98 17679	04/30/98	WIPO	—	—	
	AI					
	AJ					
	AK					
	AJ					
	AK					

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

RP	AL	WEI HAN, et al, "alpha-Ketoamides, alpha-ketoesters and alpha-diketones as HCV NS3 protease inhibitors", <i>BIOORGANIC &amp; MEDICINAL CHEMISTRY LETTERS</i> , Vol. 10, No. 8, (2000), pp. 711-713.
RM	AM	LLINAS-BRUNET MONTSE, et al, "Studies on the c-terminal of hexapeptide inhibitors of the hepatitis C virus serine protease", <i>BIOORGANIC &amp; MEDICINAL CHEMISTRY LETTERS</i> , Vol. 8, No. 19, (1998), pp. 2719-2724.
	AN	
	AO	
	AP	
	AQ	

EXAMINER	DATE CONSIDERED
RM	1-27-04

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>				<b>Complete if Known</b>	
Sheet	1	of	3	Application Number	10/052,386
				Filing Date	January 18, 2002
				First Named Inventor	Saksena et al.
				Art Unit	1653
				Examiner Name	Not Yet Assigned
				Attorney Docket Number	SCHERING 3.0-122 CIP

<b>U.S. PATENT DOCUMENTS</b>					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
RJM	AA**	US-5,162,500	11-10-1992	Takeuchi et al.	
	AB**	US-5,359,138	10-25-1994	Takeuchi et al.	
	AC**	US-5,488,067	01-30-1996	Hanson	
	AD**	US-5,496,927	03-05-1996	Kolb et al.	
	AE**	US-5,514,694	05-07-1996	Powers et al.	
	AF**	US-5,633,388	05-27-1997	Diana et al.	
	AG**	US-5,739,002	04-14-1998	De Francesco et al.	
	AH**	US-5,763,576	06-09-1998	Powers	
	AI**	US-5,843,450	12-01-1998	Dawson et al.	
	AJ**	US-5,843,752	12-01-1998	Dasmahapatra et al.	
	AK**	US-5,849,866	12-15-1998	Kolb et al.	
	AL**	US-5,854,001	12-29-1998	Casey et al.	
	AM*	US-6,265,380-B1	07-24-2001	Tung et al.	

<b>FOREIGN PATENT DOCUMENTS</b>					
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>3</sup> -Number-Kind Code <sup>4</sup> (if known)			
RJM	BA**	EP-0 423 358-A1	04-24-1991	Naganawa et al.	
	BB**	EP-0 672 648-A1	09-20-1995	Naganawa et al.	
	BC**	WO-02/18369-A2	03-07-2002	Babine et al.	
	BD**	CA-2362911-A1	09-08-2000	Takemura et al.	
	BE**	FR-2778406	11-12-1999	Hurst et al.	
	BF**	WO-92/11850	07-23-1992	Simpson et al.	
	BG**	WO-94/00095	01-06-1994	Eveleth et al.	
	BH**	WO-95/33764	12-14-1995	Charbonneau	
	BI**	WO-97/06804	02-27-1997	McDade	
	BJ**	WO-98/12308	03-26-1998	De Francesco et al.	
	BK**	WO-98/13462	04-02-1998	McIver et al.	
	BL**	WO-98/14181	04-09-1998	Chojkier et al.	
	BM*	WO-98/29435	07-09-1998	Baily et al.	
	BN**	WO-98/37180	08-27-1998	Chen et al.	
	BO**	WO-99/07733	02-18-1999	Llinas-Brunet et al.	
	BP**	WO-99/64442	12-16-1999	Malassa et al.	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. \*\*CITE NO.: Those patent(s) or publication(s) which are marked with an double asterisk (\*\*) next to the Cite No. are not supplied because they were previously cited by or submitted to the Office in a prior application relied upon in this application for an earlier filing date under 35 U.S.C. 120. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov), or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature	RJM	Date Considered	1-27-04
--------------------	-----	-----------------	---------



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

PTO/SB/08a/b (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/B/PTO				Complete if Known	
				Application Number	10/052,386
				Filing Date	January 18, 2002
				First Named Inventor	Saksena et al.
				Art Unit	1653
				Examiner Name	Not Yet Assigned
Sheet	2	of	3	Attorney Docket Number	SCHERING 3.0-122 CIP

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			
RRM	CA**	BARTENSCHLAGER et al., Substrate Determinants for Cleavage in cis and in trans by the Hepatitis C Virus NS3 Proteinase, Journal of Virology, Jan. 1995, Vol. 69, No. 1, pp. 198-205			
	CB**	BENNETT et al., The Identification of a-Ketoamides as Potent Inhibitors of Hepatitis C Virus NS3-4A Proteinase, Biorganic & Medicinal Chemistry Letters 11 (2001), pp. 355-357			
	CC**	BIANCHI et al., Synthetic Depsipeptide Substrates for the Assay of Human Hepatitis C Virus Protease, Analytical Biochemistry 237, 239-244 (1996)			
	CD**	BOUFFARD et al., An in Vitro Assay for Hepatitis C Virus NS3 Serine Proteinase, Virology 209, 52-59 (1995)			
	CE**	CHO et al., Construction of hepatitis C-SIN virus recombinants with replicative dependency on hepatitis C virus serine protease activity, Journal of Virological Methods 65 (1997), 201-207			
	CF**	D'SOUZA et al., In vitro cleavage of hepatitis C virus polyprotein substrates by purified recombinant NS3 protease, Journal of General Virology (1995), 76, 1729-1736			
	CG**	FILOCAMO et al., Chimeric Sindbis Viruses Dependent on the NS3 Protease of Hepatitis C Virus, Journal of Virology, Feb. 1997, p. 1417-1427			
	CH**	HAHM et al., Generation of a Novel Poliovirus with a Requirement of Hepatitis C Virus Protease NS3 Activity, Virology 226, 318-326 (1996)			
	CI**	HAMATAKE et al., Establishment of an in vitro Assay to Characterize Hepatitis C Virus NS3-4A Protease Trans-Processing Activity, Intervirology 1996;39:249-258			
	CJ**	HARBESON et al., Stereospecific Synthesis of Peptidyl a-Keto Amides as Inhibitors of Calpain, J. Med. Chem. 1994, 37, 2918-2929			
	CK**	ITO et al., Cultivation of hepatitis C virus in primary hepatocyte culture from patients with chronic hepatitis C results in release of high titre infectious virus, J. Gen. Virol 1996 May; 77 (Pt 5):1043-54			
	CL**	LU et al., Poliovirus chimeras replicating under the translational control of genetic elements of hepatitis C virus reveal unusual properties of the internal ribosomal entry site of hepatitis C virus, Proc. Natl. Acad. Sci. USA, Vol. 93, pp. 1412-1417, February 1996			
	CM**	MIZUTANI et al., Characterization of Hepatitis C Virus Replication in Cloned Cells Obtained from a Human T-Cell Leukemia Virus Type 1-Infected Cell Line, MT-2, Journal of Virology, Oct. 1996, p. 7219-7223			
	CN**	MIZUTANI et al., Inhibition of Hepatitis C Virus Replication by Antisense Oligonucleotide in Culture Cells, Biochemical and Biophysical Research Communications, Vol. 212, No. 3, 1995, pp. 906-911			
	CO**	MIZUTANI et al., Long-Term Human T-Cell Culture System Supporting Hepatitis C Virus Replication, Biochemical and Biophysical Research Communications 227, 822-826 (1996)			
	CP**	NARJES et al., a-Ketoacids are Potent Slow Binding Inhibitors of the Hepatitis C Virus NS3 Protease, Biochemistry (2000), Vol. 39, pp. 1849-1861			
	CQ**	OGILVIE et al., Peptidomimetic Inhibitors of the Human Cytomegalovirus Protease, J. Med. Chem. 1997, 40, 4113-4135			
	CR**	SCARSELLI et al., GB Virus B and Hepatitis C Virus NS3 Serine Proteases Share Substrate Specificity, Journal of Virology, July 1997, p. 4985-4989			
	CS**	SCHECHTER et al., On the Size of the Active Site in Proteases, Biochemical and Biophysical Research Communications, Vol. 27, No. 2, 1967			
	CT**	SHIMIZU et al., Multicycle Infection of Hepatitis C Virus in Cell Culture and Inhibition by Alpha and Beta Interferons, Journal of Virology, Dec. 1994, p. 8406-8408			

Examiner Signature	RRM	Date Considered	1-27-04
--------------------	-----	-----------------	---------



PTO/SB/08a/b (08-03)

Approved for use through 07/31/2006, OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/B/PTO				Complete If Known	
				Application Number	10/052,386
				Filing Date	January 18, 2002
				First Named Inventor	Saksena et al.
				Art Unit	1653
				Examiner Name	Not Yet Assigned
Sheet	3	of	3	Attorney Docket Number	SCHERING 3.0-122 CIP

RBM	CU**	STEINKUHLER et al., Product Inhibition of the Hepatitis C Virus NS3 Protease, Biochemistry 1998, Vol. 37, pp. 8899-8905	
	CV**	SUDO et al., Establishment of an in vitro assay system for screening hepatitis C virus protease inhibitors using high performance liquid chromatography, Antiviral Research 32 (1996), pp. 9-18	
	CW**	TAKESHITA et al., An Enzyme-Linked Immunosorbent Assay for Detecting Proteolytic Activity of Hepatitis C Virus Proteinase, Analytical Biochemistry (1997), 274, pp. 242-246	
	CX**	TALIANI et al., A Continuous Assay of Hepatitis C Virus Protease Based on Resonance Energy Transfer Depsipeptide Substrates, Analytical Biochemistry 240 (1996), pp. 60-67	
	CY**	TAREMI et al., Construction, expression, and characterization of a novel fully activated recombinant single-chain hepatitis C virus protease, Protein Science (1998), 7:2143-2149	
	CZ**	TONG et al., Conserved mode of peptidomimetic inhibition and substrate recognition of human cytomegalovirus protease, Nature Structural Biology (1998), Vol 5., No. 9, pp. 819-826	
	CA1**	TSUDA et al., Poststatin, a New Inhibitor of Prolyl Endopeptidase, The Journal of Antibiotics (1996), Vol. 49, No. 3, pp. 287-291	
	CB1**	TSUDA et al., Poststatin, a New Inhibitor of Prolyl Endopeptidase, The Journal of Antibiotics (1996), Vol. 49, No. 9, pp. 890-899	
	CC1**	URBANI et al., Substrate Specificity of the Hepatitis C Virus Serine Protease NS3, Journal of Biological Chemistry (1997), April 4 Issue, pp. 9204-9209	
	CD1**	WANG et al., Expression of HCV NS3 Protease and Detection of Its Activity in Mammalian Cells, 4th International Meeting on Hepatitis C Virus and Related Viruses, Molecular Virology and Pathogenesis, March 6-10, 1997	
	CE1**	WASSERMAN et al., (Cyanomethylene) phosphoranes as Novel Carbonyl 1,1-Dipole Synthons: An Efficient Synthesis of α-Keto, Acids, Esters, and Amides, J. Org. Chem. (1994), Vol. 59, pp. 4364-4366.	
	CF1**	ZHANG et al., Probing the Substrate Specificity of Hepatitis C Virus NS3 Serine Protease by Using Synthetic Peptides, Journal of Virology, Aug. 1997, pp. 6208-6213	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. \*\*CITE NO.: Those patent(s) or publication(s) which are marked with an double asterisk (\*\*) next to the Cite No. are not supplied because they were previously cited by or submitted to the Office in a prior application relied upon in this application for an earlier filing date under 35 U.S.C. 120.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature	RBM	Date Considered	1-27-04
--------------------	-----	-----------------	---------